

REMARKS

Amendments to claims 1, 15, and 26-29 are for the purpose of clarifying what Applicant regards as the claimed invention. No new matter has been added.

Applicant wishes to thank the Examiner for withdrawing the § 101 rejections.

I. Claim Rejections under 35 USC § 103

Claims 1-43 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over “BURG – Fast Optimal Instruction Selection and Tree Parsing” (Fraser) in view of “Better XML Parser through Functional Programming” (Kiselyov), and further in view of US 2002/0188613 (Chakraborty).

A. Cited passages of Fraser do not disclose or suggest an operator tree as described in the claims.

Claim 1 recites *an operator tree associated with a plurality of operators* that correspond with a *program statement* in a database query language (Emphasis Added). Claims 15 and 26-29 recite similar limitations. As discussed in the last response, the cited “Overview” of Fraser does not disclose or suggest such an operator tree. Rather, the cited passage of Fraser actually discloses a program that accepts a tree grammar and outputs a C program that discovers an optimal parse of trees. There is nothing in the cited passage of Fraser that discloses or suggests a plurality of *operators* that are associated with a tree, nor is there anything in the cited passage of Fraser that discloses or suggests that such operators correspond with a *program statement in a database query language*, as recited in the claims.

According to page 17 of the Office Action, page 69, the third paragraph of Frasier allegedly discloses the above limitations. However, Applicant respectfully notes that page 69, the third paragraph of Frasier actually describes tree grammar, but there is nothing in there that actually describes operators that correspond with a program statement in a database query language.

Also, according to page 17 of the Office Action, the limitation regarding the program statement in a database query language is not considered and has not been given patentable weight because such limitation is recited in the preamble. However, Applicant respectfully notes that the body of the claim actually refers to features (e.g., parent node of the operator tree) of the limitation regarding the program statement in the database query language. The limitation regarding the program statement is further recited in the body of claims 3 and 4. Furthermore, claims 1, 15, and 26-29 have been amended to refer to the same limitation regarding the program statement in a database query language in the preamble, as recommended by the Examiner. Since the body of the claims actually refers to the limitation in the preamble, the limitation in the preamble should be given patentable weight. Note that a limitation in the preamble is given patentable weight if it is referred to the body of the claims — thereby “breathing life and meaning” into the claims.

Kiselyov and Chakraborty also do not disclose or suggest the above limitations, nor are they being relied upon for the disclosure of the above limitations. Since none of the cited references, either alone or in combination, discloses or suggests the above limitations, any purported combination of the cited references cannot result in the subject matter of claims 1, 15, and 26-29. For at least the foregoing reasons, Applicant respectfully submits that the prima facie

case of the § 103 rejections based on Fraser, Kiselyov, Chakraborty has not been established, and requests that the § 103 rejection be withdrawn.

B. Cited passages of Kiselyov do not disclose or suggest outputting the result for a child node to a data stream without buffering the result or an intermediate result in storage when top-down processing is performed.

Claim 1 also recites outputting the result for a *child node* to a data stream without buffering the result or an intermediate result in storage when top-down processing is performed (Emphasis Added). Claims 26 and 27 recite similar limitations. Claim 15 recites that the output from top-down processing the first *child operator node* is output to a data stream without buffering the result or an intermediate result in storage (Emphasis Added). Claims 28 and 29 recite similar limitations. Thus, these claims describe that the result that is not buffered in storage is for a *child node/child operator node* that corresponds with a *program statement in a database query language*. Applicant agrees with the Examiner on page 5 of the Office Action that Fraser does not disclose such limitations.

According to the Office Action, section 4.2, fifth paragraph, and figure 4 of Kiselyov allegedly disclose the above limitations. However, the cited passage of Kiselyov actually discloses:

The function *ssax-outline* also illustrates the benefit of the SAX XML parsing mode. *The function prints element names as they are identified and accumulates no data.* It can therefore process documents of arbitrary size -- far bigger than the amount of available memory. The function *ssax-outline* is a true stream processor, with low memory requirements and low latency.

(Emphasis Added)

Thus, the cited passage of Kiselyov discloses that the function *ssax-outline* does not accumulate data, but there is nothing in the cited passage that discloses or suggests that a result for *a child node / child operator node* is not buffered in storage. Also, just because data is not “accumulated,” it does not mean that data is not “stored” (this is because data may be stored without being accumulated – e.g., by writing over previous data). Thus, the lack of accumulation of data in Kiselyov cannot be properly interpreted as no storing of data. Applicant notes that this argument has not been addressed and considered by the Examiner, and therefore, respectfully requests that they be considered and addressed in the next Office Action should the Examiner be inclined to maintain the same rejections.

More importantly, Applicant notes that claim 1 describes that the result output to a data stream (without buffering the result or an intermediate result in storage when top-down processing is performed) is actually for processing the program statement in the database query language. The printing of element names in Kiselyov is not for processing the program statement in the database query language. Thus, the act of printing the element names in Kiselyov cannot be analogized as the claimed act of outputting the result.

Chakraborty also does not disclose or suggest the above limitations, nor is it being relied upon for the disclosure of the above limitations. Since none of the cited references, either alone or in combination, discloses or suggests the above limitations, any purported combination of the cited references cannot result in the subject matter of claims 1, 15, and 26-29. For these additional reasons, claims 1, 15, and 26-29, and their respective dependent claims, are believed allowable over Fraser, Kiselyov, Chakraborty, and their combination.

C. Cited references do not disclose or suggest the limitations regarding top-down processing.

Claims 1, 26, and 27

Claim 1 recites “determining if the child node relates to an operator for which top-down processing is capable of being performed, wherein the top-down processing is capable of being performed when a result for the operator is capable of being generated without storage of the result for the parent operator node.” Claims 26 and 27 recite similar limitations. Applicants respectfully submit that Fraser, Kiselyov, and Chakraborty do not disclose or suggest the above limitations.

According to page 4 of the Office Action, Section 3, first paragraph of Fraser allegedly discloses determining if the child node relates to an operator for which top-down processing is capable of being performed. Applicant respectfully disagrees. The cited passage of Fraser actually describes traversing “the subject tree twice”, wherein the first pass “runs bottom-up” and the second pass “traverses the subject tree top-down.” Thus, in Fraser, each node is always related to a tree than can be traversed top-down. As such, there is no need in Fraser to determine if a child node relates to an operator for which top-down processing is capable of being performed, and Fraser in fact teaches away from such act (as described in claims 1, 26, and 27). Note that a reference that teaches away from the subject matter of the claim cannot be used to establish a prima facie case of a § 103 rejection.

Also, according to page 4 of the Office Action, in Fraser, “the skipping of the subtree means that top-down processing cannot be performed.” Applicant respectfully submits that this characterization of Fraser is improper. Rather, Section 3, paragraph 1 of Fraser specifically describes that when a subject node is skipped, “the reducer may proceed directly to grandchildren, great-grandchildren, and so on.” Thus, Fraser clearly describes that when a node is skipped, the process may still be continued in a top-down manner – which again, teaches away

from the subject matter of the claims. Note that a reference that teaches away from the subject matter of the claim cannot be used to establish a prima facie case of a § 103 rejection. Applicant respectfully notes that the above arguments have not been considered and addressed by the Examiner, and requests that they be considered and addressed in the next Office Action should the Examiner be inclined to maintain the same rejection.

Notably, as the Examiner pointed out on page 18 of the Office Action, the skipping of nodes is performed based on *patterns* in the interior operators. Thus, in Frasier, the skipping of a node is conditioned upon the *patterns* in the operators, not conditioned upon whether “a result for the operator is capable of being generated without storage of the result for the parent operator node,” as described in the claims. Note that the claims described that top-down processing is considered capable of being performed when a result for the operator is capable of being generated without storage of the result for the parent operator node. There is nothing in Frasier that discloses or suggests that top-down processing is considered to be capable of being performed when a result of the operator can be generated without storage.

In addition, Applicant respectfully notes that claim 1 does not merely recite top-down processing, but it actually recites *the act of determining if* the child node relates to an operator for which top-down processing is capable of being performed. There is nothing in Fraser that discloses or suggests any *act of determining if* a child node relates to an operator for which top-down processing is capable of being performed. Furthermore, with respect to the above claimed act, there is nothing in Fraser that discloses or suggests that top-down processing is considered to be possible when a result of the operator can be generated without storage (i.e., Fraser does not relate/associate whether top-down processing can be performed with whether a result of an operator can be generated without storage).

For these additional reasons, claims 1, 26, and 27, and their respective dependent claims, are believed allowable over Fraser, Kiselyov, Chakraborty, and their combination.

Claims 15, 28, and 29

Claim 15 recites determining whether the parent operator node is related to a first child operator node that is eligible for top-down processing, wherein the first child operator node is eligible for the top-down processing when a result for an operator associated with the first child operator node is capable of being generated without storage of the result for the parent operator node. Claims 28 and 29 recite similar limitations. Applicants respectfully submit that Fraser, Kiselyov, and Chakraborty do not disclose or suggest the above limitations for the similar reasons discussed above with reference to claims 1, 26, and 27.

CONCLUSION

If the Examiner has any questions or comments regarding this response, please contact the undersigned at the number listed below.

To the extent that any arguments and disclaimers were presented to distinguish prior art, or for other reasons substantially related to patentability, during the prosecution of any and all parent and related application(s)/patent(s), Applicant(s) hereby explicitly retracts and rescinds any and all such arguments and disclaimers, and respectfully requests that the Examiner re-visit the prior art that such arguments and disclaimers were made to avoid.

The Commissioner is authorized to charge any fees due in connection with the filing of this document to Vista IP Law Group's Deposit Account No. **50-1105**, referencing billing number **OID-2003-207-01**. The Commissioner is authorized to credit any overpayment or to charge any underpayment to Vista IP Law Group's Deposit Account No. **50-1105**, referencing billing number **OID-2003-207-01**.

Respectfully submitted,

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